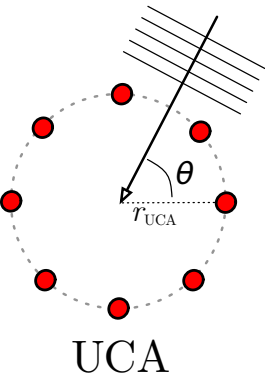


$$\sum_{n=1}^N e^{j(n-1)\psi}$$

where

$$\psi = kd \cos \theta + \alpha$$



$$\sum_{n=1}^N e^{jkr_{UCA} \cos(\theta_n - \xi)}$$

where

$$\xi = \tan^{-1} \left[\frac{\sin \theta \sin \phi - \sin \theta_0 \sin \phi_0}{\sin \theta \cos \phi - \sin \theta_0 \cos \phi_0} \right]$$